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## THE RELATION OF OLD AGE TO DISEASE, WITH ILLUSTRATIVE CASES

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OLD age is a purely comparative term, and there is no reason why we should not make a special study of it. It is a condition which is reached in the natural process of life and is difficult to define, except according to its characteristics. Some individuals at forty are older than are others at ninety. This is true not only of the body, but also of the mind. The process of growing old has certain characteristics, which are also seen in certain diseases, such as Bright's disease, paralysis, etc. It is not surprising to find that diseases of this class are founded primarily on disease of the blood-vessels, and are due to what is known as fast living, which, it is only logical to conclude, brings an individual to prematurely old age. Degeneration of the blood-vessels is the essential feature of old age, and the same conditions are found in the slower cases of Bright's disease. Every hospital has at times cases of Bright's disease, in which the patient had become feeble-minded, having lost his intellectual grasp and become childish. In Bright's disease we also see the development of paralysis, which is due to interference with the circulation of the blood.

The causes of early old age are the same as those of Bright's disease—the various forms of intoxication. Chronic poisoning from the prolonged use of alcohol causes a degeneration of the blood-vessels that tends to hasten the signs of old age. The next most important intoxication is that of syphilis. Attacking, as it does, the blood-vessels, there is no doubt whatever as to its tendency to hasten the development of old age. Still another intoxication is that produced by an injudicious diet. When a person eats a great deal more than is needed—particularly rich food, especially if combined with wine—the digestive apparatus is thrown out of order, and much of the product of the food has to be excreted in combinations of uric acid. The excess of food must be disposed of by the system in the best way possible. In this process, in attempting to take care of the surfeit of food, the chemistry of the body becomes disordered, and instead of the production of urea, we have the development of urates, and consequently the gouty diathesis. This is nothing more than deficient chemical action in the body when for some reason it is unable to complete its work. The same may take place through an error in the chemistry, but that is uncommon. In rare instances the same fault in the chemistry of the body may be due to other causes

than an excess of food, so that once in a while we find examples of gout in persons who hardly get enough to eat; however, such cases are infrequent. This error in the chemistry of the body, which we call the gouty diathesis, allows certain materials to be produced in the circulation which have the same effect upon the blood-vessels of the body as the other causes we have mentioned. We see, then, that old age may be hastened by an over-indulgence in food.

Another factor in producing pre-senility is overwork. The individual may be strongly attached to some form of labor, constant application to which, combined with worry, may result in disorder of the nervous control of the blood-vessels. The heart's action becomes affected, and there is brought about through the nervous system a condition of arterial tension. This leads to degeneration of the blood-vessels resembling that produced by gout, syphilis, and alcohol. We do not often, however, get these causes intermixed with the alcoholic habit. This kind of work hastens old age.

The process of growing old commences at maturity. Up to that time the process of growth is one of construction. From that time on it is one of hardening. This law is one that we cannot get away from, and it is quite important that we should recognize it. People who live to be one hundred years old are freaks, just as babies who are born with teeth, or who talk when a few months old. We learn very little from these. The same is true of a man who lives to be very old in spite of the abuse of tobacco and alcohol.

The object of this paper is to show some of the conditions that are met with in old people, and to explain something about the care of the old and infirm. There are certain principles that physicians learn from experience. One is that it is bad policy to keep old people in bed. The danger of becoming bedridden and of losing the ambition that keeps old people going is very great. In nursing old people it is better to err on the side of keeping them up than putting them to bed. The time when an old person gives up and yields all his dressing and washing to the nurse marks a mile-stone towards senility, of which most old people are conscious, and if he is not on his guard against its approach the nurses and those around him should be. It is very easy for old people to give up and hard for them to resume. They know this, and often one of the most difficult things for a nurse to do is to persuade old people to be waited upon. I could tell a good many interesting incidents of the way old people have resisted the care they really needed, and a good many examples of the ingenuity of nurses in taking care of these old people without their knowing it. I remember one old man, whom I had charge of for a long time, and who only com-

menced to grow old when he reached eighty. He positively refused to have an attendant of any kind with him, yet he would go about the city and get lost, causing a great deal of anxiety to his family. A nurse was introduced to him in the capacity of a butler, and this man always followed the old gentleman around. When the old gentleman got lost, the butler generally happened to be near and would walk along with him. This trained nurse was very ingenious and took care of the old gentleman for several years without his knowing it. He found that the old gentleman, although very rich, would persist in wearing his old clothes. When he got into the habit of wearing a particular garment he did not care to give it up. Some of the members of the family spoke to him about it, but to no effect. The nurse would tell the old gentleman that the coat, or whatever it was, needed new buttons or repairing, and an article very like the old one would be substituted, and the old gentleman would not know the difference. This shows that tact is better than persuasion.

Another thing that you must bear in mind is that old people cannot remember new things, also that they get accustomed to things which in a younger person would be injurious. You should not dictate to them as to the hours of rising and retiring, and to a great extent what they should eat. A very old person gets into a groove, and the nurse must not disturb it too much.

Recently the writer was called to an old patient with pneumonia. The trained nurse came and wanted to take off the clothing the patient was wearing in bed and to alter a great deal the surroundings of the patient. I did not think that wise with a person of seventy-five. She wore flannels in bed and had been accustomed to certain ways of dressing and having the bed in a certain way, and found it very difficult to change. As a rule, it is better not to disturb the habits of the old. It is the same way with stimulants. If an old person is accustomed to stimulants, he should have them. If a man is accustomed to tobacco, he should have it. You cannot with advantage alter the plans of life of old people.

In advanced life the memory for recent events—the things that happened yesterday and last week—is very slight, but the memory for things that happened long ago is strong, hence they are interested in things that happened long ago. Now, younger people, both doctors and nurses, find this very tiresome. If you try to interest senile patients in what is going on at present, you will probably fail in doing so. You must make a study of what interests them most. To do this, find out what interested them in their former life. They will usually brighten up, talk, and become interested. Old people tell the same story many times. Always listen as attentively as you can the first time the story is told. If you do so, you will generally get along with them

and they will think you are a good nurse; while if you treat old people like young ones, making them go to bed without flannels, putting them to bed early and not letting them up early, you will find that you cannot handle them so well.

The diseases of old age often resemble those of children. The diseases are not typical. Pneumonia is the most fatal disease with old people. What you must watch for all the time is the development of failure of circulation, because when a person dies of old age it is from failure of circulation. This failure may lead to the degeneration of the kidneys, or more often to paralysis, but in either case the cause is degeneration. The saying is, "A person is as old as his arteries." In old people you watch for signs of interference with the circulation, and this may be shown by a very slight thing—for instance, a little staggering, a little awkwardness with one hand or one foot, or the speech may be a little thick. Any of these may be the first sign of the development of paralysis. The treatment for this condition is to a great extent medicinal, and is of extreme importance. Thus, when the signs of the failure of the circulation are marked there are certain drugs that will postpone the catastrophe. These are the drugs that dilate the blood-vessels. The most important are the iodide of potash, or soda, and I have no doubt that old people can be kept alive a considerable length of time when the circulation is carefully watched and they are treated to prevent failure of the circulation.

SENILITY.—The foundation of nearly all organic disease of the nervous system, whether it is the failure of the brain in old age, or paralysis in younger people, lies in the blood-vessels.

The reason that syphilis attacks the brain is that it attacks the blood-vessels. This leads to a shrinkage of the tissues. Thus we see the resemblance between the effects of syphilis and those of old age. Old age affects the mind through the failure of the blood to circulate properly. The arteries of the brain are degenerated, and the blood no longer nourishes it well. The early signs of mental senility are probably not often improved by treatment, but the development of these early signs can probably be arrested by treatment.

CASE I.—A. B. is seventy-eight years of age. She presents very few signs of old age. Her blood-vessels are soft and her circulation seems to be in good condition. She states that she can remember things that happened a long while ago, but cannot remember incidents of a few days ago, which is very characteristic of the loss of memory that comes with old age.

CASE II.—C. A., according to her statement, has reached seventy-two. She shows a hardening of the arteries that is so often found in

old age. In taking her pulse, the artery gives a feeling like a row of beads; still, the artery is not peculiarly stiff and is in fair condition for her age.

CASE III.—E. F. is eighty-one years of age, and shows one of the unmistakable characteristics of old age, arcus senilis—the fatty degeneration around the iris as it joins the white of the eye. However, that is probably not well founded, as we find it in some people who are pretty young, and we do not find it in all people who show all the other signs of old age.

CASE IV.—G. H. is eighty years old and shows the characteristic arterial changes. She is blind and her eyes show the evidences of what the oculists call “phthisis bulbi,” which is the shrinkage of the eyes, and for which there is no remedy.

CASE V.—I. J. is apparently one of those freaks that I have spoken of who live away beyond the natural term of ordinary human life. She shows an extreme degree of the degeneration of the blood-vessels, as indicated by the hardening and bead-like feeling of the radial artery. She says she is one hundred and two years old, and from her general appearance, and from the fact that we know that some colored people do live to that age, I have no reason to doubt her story. Her mental condition is shown by her general manner in talking to herself, which shows that she is approaching that state known as senile dementia.

CASE VI.—K. L. is ninety or more years old and shows the characteristic atrophy of the jaw which always goes with old age. The jaw is one of the most characteristic indications of age. If you notice a young baby, the mastoid process is hardly developed at all, and the jaw of the infant is very little developed. In middle life, or as you approach maturity, the process of the development of the jaw becomes full and square and is quite characteristic. If you will look among any group of people of middle age you will see that they have full, square jaws. They have reached maturity and their jaws are fully developed; but if you notice the old people, without exception, you will notice that the jaws are lighter, particularly after losing the teeth. This atrophy leads to the loss of the teeth. The jaws are very thin. Some old people show an extreme degree of atrophy of the jaw caused by old age, which goes on more rapidly after the loss of teeth. This relation of the teeth to age is very curious; it is a fact that people who live to a great age often retain their teeth. Most of our famous men who have lived to a great age have usually retained their teeth until death.

There are one or two other things in connection with old age that are of special interest. The eye undergoes certain changes that are very characteristic. In early life the power of accommodation is very great.

If you have ever noticed a baby, you will find that it looks closely at an object and accommodates itself to very near vision. Up to the age of forty people focus their vision to a convenient distance. About that time you will find when you try to read that your arm is not long enough, and old people have to get new glasses from time to time, which is a characteristic indication of advancing age. Of course, a near-sighted person does not have to do that.

The hearing generally becomes impaired during the process of growing old, so that most old people are not quite normally acute in their hearing.

The pulse-rate becomes slower in old age, and that, too, like the changes in the eye, is a process that goes on from birth. At birth the pulse-rate is about 140. During the first year it falls to perhaps 100, and gradually goes down at maturity, when it averages 72. In old people you will find the pulse somewhat slower. That is one of the processes that goes on, like those of the eye, throughout the whole course of life.

The lessons that we are to learn about the study of old age is, that it is inevitable, and we must adapt our practice to the age of the individual. You must not treat a young child as you would a grown person, nor must you treat an old person as you would one in the prime of life. For a person in the seventies it is not worth while to make any great sacrifice in the way of money and associations to go in search of health, because the probabilities are that the disturbance of the routine to which he has been accustomed through many years will do him more harm than any climate will do him good. Again, old people do not stand accidents or operations well. They live in a state of equilibrium, and any great shock is liable to disturb their balance and lead to death.

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## A SCHOOL FOR SOCIAL WORKERS

By M. ADELAIDE NUTTING

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NURSES will share with other trained workers the general interest which is aroused by the recent announcement that Harvard University and Simmons College, the oldest and the newest of our institutions, have united in establishing what is called "A Training-School for Social Workers." This is, briefly, a school for the training of men and women in the practical administration of public and private charities. That great need exists for the training which a school of this nature will provide no one at all familiar with social problems can for one minute doubt,